

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 78.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030074**Date Inspected:** 24-Sep-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Steward Machine Co.**Location:** Birmingham, AL

CWI Name:	Fred Hudson		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	Yes	No	N/A
Approved WPS:	Yes	No	N/A
Delayed / Cancelled:	Yes	No	N/A

Bridge No: 34-0006**Component:** E2 Shear Key Anchorages**Summary of Items Observed:**

Quality Assurance Inspector (QAI) Fritz Belford was present on the date and times noted above in order to observe the fabrication and Quality Control (QC) functions performed by Steward Machine Company for the E2 Shear Key Anchorages for the SFOBB project. Material Test Reports (MTRs) for all materials used have been reviewed and approved by others at the XKT shop in Vallejo California prior to shipping to Steward Machine Company. The following items were observed:

STEWARD MACHINE - PLANT 1:

The QA performed a walkthrough at the shop to verify plates on site and to observe Steward Machine personnel at work machining and welding. Work performed at the Steward Machine shop as noted below:

Welders John Ray (#469):

The welder was observed welding the S4B assembly, welding the J3, K4, M4 & P4 plates to R3 & plates utilizing Welding Procedure Specification (WPS) P2-W128-B and P2-W126-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 1G position. The welding parameters were observed adjusted and monitored by Certified Welding Inspector (CWI) Fred Hudson (Cert. #01061501) who was onsite with the WPS as required by contract documents. The welding parameters measured and noted to be within the acceptable limits as per the WPS using 1/16" Class E70T-1 filler and 100% CO2 at 40cfm.

The welder was also observed removing and rewelding the S3 round bars to the correct location on strap plates J3 after a closer examination revealed the rounds bars were out of position. The welder utilized Welding Procedure Specification (WPS) P2-W101-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 2F.

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Welder Ben Rhodes #481:

The welder was observed welding the S3C assembly, welding side A (shear key side) cover passes utilizing Welding Procedure Specification (WPS) P2-W128-B for Flux Core Arc Welding-Gas Shielded (FCAW-G) in the 1G position. The welding parameters were observed adjusted and monitored by Certified Welding Inspector (CWI) Fred Hudson (Cert. #01061501) who was onsite with the WPS as required by contract documents. The welding parameters were measured to be 30volts/300amps using 1/16" Class E70T-1 filler and 100% CO2 at 40cfm. The assembly as noted above includes plates S3C-e4, S3C-f4, S3C-g4, S3C-d4, S3C-c4, S3C-h4, S3C-b4 & S3C-a4.

S4B Assembly:

After completion of welding the assembly was mounted on CNC #231 milling of the assembly bottom side and enlargement of the cable troughs to 87 x 146 as required by contract drawings.

S3B Assembly:

The assembly was relocated to Bay 4 for the application of the Sikadur 35 to fill gaps as required by contract drawings.

S4C Assembly:

The assembly was mounted on CNC #230 for milling of the assembly sides.

S3C Assembly:

The welding of the assembly continued on the side B cover passes.

The following plates were noted staged throughout the shop in various stages of processing.

Bay 4 & 5- Plates:

S3B-e3. Milling complete.

S3C-e3. Milling complete.

S4C-e4. Milling complete.

COMPONENT RELEASES.

None

NON-DESTRUCTIVE TESTING (NDT).

S3B Assembly Visual Testing (VT) and Magnetic Particle Testing (MPT):

- VT/MPT of Sides A & B after machining acceptable. (See TL-6028 for more information.)

The QC Inspector was observed performing 100% Magnetic Particle Testing (MPT) and accepting of items noted above prior to QA Inspector's verification MPT.

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Summary of Conversations:

The QA Inspector inquired of the QC Inspector what corrective actions they were contemplating for the out of position welding of the S3 round bars to the J3 plates. The QC Inspector relayed to the QA Inspector that an NCMR will be submitted and that a RFI to remove and reweld all the S3 round bars to the J3 in the correct position will be submitted.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764 - 6027, who represents the Office of Structural Materials for your project.

Inspected By:	Belford,Fritz	Quality Assurance Inspector
Reviewed By:	Foerder,Mike	QA Reviewer
